

January 5, 2022

VIA ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 5189– 2022 Annual Energy Efficiency Program Plan Responses to PUC Data Requests - Set 6 (Complete Set)

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a National Grid (“National Grid” or the “Company”), attached, please find the electronic version of the Company’s responses to the Public Utilities Commission’s (“PUCs”) Sixth Set of Data Requests in the above referenced docket. Bates stamp has been applied to the attached electronic version.¹

Thank you for your attention to this filing. If you have any questions or concerns, please do not hesitate to contact me at 401-784-4263.

Sincerely,



Andrew S. Marcaccio

Enclosures

cc: Docket 5189 Service List
Margaret Hogan, Esq.
John Bell, Division

¹ Per the Commission’s request, the Company is providing one copy of this transmittal for the Commission’s file in this docket and six (6) copies, 3-hole punched for the Commission.

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

January 5, 2022
Date

**Docket No. 5189 - National Grid – 2022 Annual Energy Efficiency Program
Service list updated 11/29/2021**

Name /Address	E-mail Distribution List	Phone
National Grid Andrew Marcaccio, Esq. National Grid 280 Melrose St. Providence, RI 02907 Leticia Pimentel, Esq. Robinson & Cole LLP One Financial Plaza, 14th Floor Providence, RI 02903	Andrew.Marcaccio@nationalgrid.com ;	401-784-4263
	Jennifer.Hutchinson@nationalgrid.com ;	
	Joanne.scanlon@nationalgrid.com ;	
	Celia.obrien@nationalgrid.com ;	
	Matthew.Chase@nationalgrid.com ;	
	Timothy.Roughan@nationalgrid.com ;	
	John.Tortorella@nationalgrid.com ;	
	Christopher.Porter@nationalgrid.com ;	
	BENJAMIN.RIVERS@nationalgrid.com ;	
	John.Richards@nationalgrid.com ;	
	angela.li@nationalgrid.com ;	
	Jessica.Darling@nationalgrid.com ;	
	Matthew.Ray2@nationalgrid.com ;	
	Joshua.Kessler@nationalgrid.com ;	
LPimentel@rc.com ;		
hseddon@rc.com ;		
Division of Public Utilities and Carriers Margaret L. Hogan, Esq.	Margaret.L.Hogan@dpuc.ri.gov ;	401-780-2120
	Jon.hagopian@dpuc.ri.gov ;	
	john.bell@dpuc.ri.gov ;	
	Joel.munoz@dpuc.ri.gov ;	
Tim Woolf Jennifer Kallay Synapse Energy Economics 22 Pearl Street Cambridge, MA 02139	twoolf@synapse-energy.com ;	
	jkallay@synapse-energy.com ;	

RI EERMC Marisa Desautel, Esq. Office of Marisa Desautel, LLC 55 Pine St. Providence, RI 02903 Mike Guerard, Optimal Energy	marisa@desautelesq.com ;	401-477-0023
	mdewey@desautelesq.com ;	
	guerard@optenergy.com ;	
	ross@optenergy.com ;	
Acadia Center Hank Webster, Director & Staff Atty.	HWebster@acadiacenter.org ;	401-276-0600 x402
Office of Energy Resources (OER) Albert Vitali, Esq. Dept. of Administration Division of Legal Services One Capitol Hill, 4 th Floor Providence, RI 02908 Nick Ucci, Commissioner	Albert.Vitali@doa.ri.gov ;	401-222-8880
	Nancy.Russolino@doa.ri.gov ;	
	Christopher.Kearns@energy.ri.gov ;	
	Nicholas.Ucci@energy.ri.gov ;	
	Becca.Trietch@energy.ri.gov ;	
	Carrie.Gill@energy.ri.gov ;	
	Anika.Kreckel.CTR@energy.ri.gov ;	
	Nathan.Cleveland@energy.ri.gov ;	
Original & 9 copies file w/: Luly E. Massaro, Commission Clerk John Harrington, Commission Counsel Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov ;	401-780-2107
	John.Harrington@puc.ri.gov ;	
	Alan.nault@puc.ri.gov ;	
	Todd.bianco@puc.ri.gov ;	
	Emma.Rodvien@puc.ri.gov ;	
Interested Party/Individual		
Frederick Sneesby Dept. of Human Services	Frederick.sneesby@dhs.ri.gov ;	
Chris Vitale, Esq., RI Infrastructure Bank	cvitale@hvlawltd.com ;	
	SUatine@riib.org ;	
Ronald Reybitz Stephen Breininger PPL Electric Utilities	rjreybitz@pplweb.com ;	
	skbreininger@pplweb.com ;	
Green Energy Consumers Alliance Larry Chretien, Executive Director Kai Salem	Larry@massenergy.org ;	
	kai@greenenergyconsumers.org ;	
	priscilla@greenenergyconsumers.org ;	

PUC 6-1

Request:

Conceptually, would a program within the Energy Efficiency Plan that is not cost effective (i.e. has a BCR of less than 1) and is greater than the cost of supply impact macroeconomics such that every dollar of program spend would yield a negative amount of macroeconomic benefits? Please explain your response.

Response:

Not necessarily. As described in the National Grid report, "Implementation of The Brattle Group Methodology, Documentation of REMI Inputs and Results," provided in response to Division 2-4, the net macroeconomic benefit of each program is the sum of the following: (1) the economic impact of program and participant spending, known as the "net construction" impact, which can be positive or negative; (2) the positive economic impact of customer benefits; and (3) the negative economic impact of customer costs. A program could have a BCR less than 1, so that benefits are less than costs and economic benefits are negative, before considering the net construction impact. If the net construction impact is positive and large enough to outweigh the negative economic impact resulting from a BCR less than 1, this would lead to a positive amount of macroeconomic benefits overall.

Note that the "net construction" impact is the sum of the following economic impacts: (1) the positive economic impact of program and participant spending, for example, GDP created from planning and implementing the EE measures; and (2) the negative economic impact from less spending on supply side alternatives to the EE measures, for example GDP lost as a result of decreased spending on power generation and infrastructure construction (avoided energy and capacity costs).

The net construction impact is negative for several of the electric programs, including residential HVAC, residential lighting, residential products, home energy reports, large commercial new construction and large commercial retrofit. The reason is that most of the program and participant spending on measures in these programs flows out of state, for example, for rebates on energy efficient light bulbs and other equipment manufactured outside of Rhode Island. Thus, the local economic activity is mostly limited to GDP created from planning the programs and this is not enough to compensate for the lost GDP from less spending on power generation and construction of infrastructure resulting from the EE measures.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 5189
In Re: 2022 Annual Energy Efficiency Plan
Responses to the Commission's Sixth Set of Data Requests
Issued on December 23, 2021

PUC 6-1, page 2

On the other hand, the net construction impact is positive for income eligible and small business direct install programs, and all of the gas programs except home energy reports. The reason is that more of the money spent on implementing these measures stays local rather flowing out of state, for example, spending on local labor, goods and services to install energy efficient measures in homes and businesses. This generates enough local economic activity to compensate for less spending on supply-side alternatives to energy efficiency.

In the workpapers provided in response to Division 2-4, net construction impacts are shown in cells AG10:AG31 on the "Electric" tab and cells AN10:AN27 of the "Gas" tab.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 5189
In Re: 2022 Annual Energy Efficiency Plan
Responses to the Commission's Fifth Set of Data Requests
Issued on December 15, 2021

PUC 6-1, page 2

On the other hand, the net construction impact is positive for income eligible and small business direct install programs, and all of the gas programs except home energy reports. The reason is that more of the money spent on implementing these measures stays local rather flowing out of state, for example, spending on local labor, goods and services to install energy efficient measures in homes and businesses. This generates enough local economic activity to compensate for less spending on supply-side alternatives to energy efficiency.

In the workpapers provided in response to Division 2-4, net construction impacts are shown in cells AG10:AG31 on the "Electric" tab and cells AN10:AN27 of the "Gas" tab.

PUC 6-2

Request:

Referencing the methodology included on page 16 of the “Review of RI Test and Proposed Methodology” report prepared by the Brattle Group and submitted by the Company as an attachment to Division 2-4, please confirm whether the following governing equation accurately represents the Company’s economic development multiplier methodology for a given program.

$$= \frac{\text{gross GDP impact} - \text{direct impact of net monetary savings assumed to be spent by ratepayers} + \text{program benefits}}{\text{program cost}} \text{ multiplier}$$

Response:

That governing equation does not accurately represent the Company’s economic development multiplier methodology for a given program. The Company’s multiplier methodology for a given program can be represented by the following governing equation:

$$\text{Multiplier} = (\text{gross GDP impact} - \text{direct impact of net monetary savings assumed to be spent by ratepayers}) / \text{program cost or spending.}$$

This yields the economic development multipliers shown on Bates page 391. Adding program benefits to the numerator as the PUC has done, yields the BC ratio when economic development benefits are included with other benefits considered for the Plan.

PUC 6-3

Request:

In response to Division 2-6, the Company explained that it had “not re-run the REMI model to reflect energy efficiency program design changes since 2019.” What was the program year-vintage of the inputs used in the 2019 REMI model run? In other words, were the inputs from the 2019 Energy Efficiency Program, the 2018 Energy Efficiency Program, or something else?

Response:

The inputs were from the 2019 Energy Efficiency Program, as provided to Brattle by the RI Customer Energy Management team in September 2018 and October 2018.

PUC 6-4

Request:

When the Company inputs program data into the REMI model for purposes of calculating the economic development multipliers, what program costs get inputted: program implementation expenses only, the sum of program implementation expenses plus customer contributions, or something else?

Response:

Both program implementation expenses and customer contributions were input. Program implementation expenses or costs are set equal to program spending from Table E-2 of the 2019 Energy Efficiency Plan, which shows spending budgets for each program. Finance costs, shareholder incentive costs and regulatory costs, which are shown as separate line items on Table E-2, are allocated to the individual programs based on each program's share in program spending before these costs. Total program costs were divided by the current load forecast to determine the SBC charge necessary to fund the programs, before customer contributions. SBC costs to residential versus C&I customers was determined by multiplying the SBC charge by the load forecast for each of these customer classes. Customer contributions or participant costs are from Table E-5 of the 2019 Energy Efficiency Plan, which shows customer contributions by program.

PUC 6-5

Request:

In response Division 2-6, the Company explained that the last time it re-ran the REMI model to generate program-specific economic development multipliers was 2019. It is Commission staff's understanding that the first time those economic development multipliers were used to calculate economic development benefits was in the 2020 Energy Efficiency Plan. Across all three customer sectors, the Company's 2020 Energy Efficiency Plan (approved by the Commission in Docket No. 4979) yielded \$134.6 million in electric PIM-eligible net benefits and \$29.7 million in gas PIM-eligible net benefits (Record Request 9 in Docket No. 5189), at a cost of \$111.3 million to electric ratepayers and \$34.3 million to gas ratepayers. Across all three customer sectors, the Company's proposed 2022 Provisional Plan is proposed to yield \$21.7 million in electric PIM-eligible net benefits and -\$582,320 in gas PIM-eligible benefits (Record Request 9, Docket No. 5189), at a cost of \$122.6 million to electric ratepayers and \$36.7 million to gas ratepayers. Given these changes in eligible net benefits and costs between 2020 and 2022, please explain the Company's position regarding whether or not the economic development multipliers modeled in 2019 (and included on Bates page 391 of the 2022 Energy Efficiency Plan) can be reasonably relied upon to support the proposed 2022 Plan.

Response:

The Company's position is that the economic development multipliers modeled in 2019 can reasonably be relied upon to support the proposed 2022 Plan. The primary rationale for updating the multipliers is to account for changes in the Rhode Island economy over time as well as changes in energy efficiency program offerings, design and BCRs. This approach assumes no drastic changes in proposed energy efficiency program offerings, design or BCRs between updates. This rationale leads to updating the multipliers every 3 to 5 years. This approach has worked since 2009 and, given the relative amount of change between 2018 programs and 2022 programs, is still applicable.

The Company notes that the question is framed in terms of a change in PIM-eligible net benefits. Benefits considered in the REMI model include a broader set of benefits than those that are counted in PIM-eligible net benefits, including some non-energy benefits and full weighting of other resource benefits. PIM-eligible net benefits are based on a narrower accounting of benefits resulting from the programs. The Company does not believe that broader conclusion about the applicability of certain economic multipliers can be drawn based on changes to the more narrowly defined PIM-eligible benefits, which are different from the set of benefits input into the REMI model.

PUC 6-6

Request:

In response to Division 2-4, the Company attached the "Review of RI Test and Proposed Methodology" report prepared by the Brattle Group in January 2019. On page 15 of the report, Brattle writes "the allocation category captures how increased discretionary income from savings should be spent by consumers... To simplify this allocation, increased spending is generally spread proportionately on existing spending allocations built into REMI." For each customer sector, please describe the specific "spending allocations built into REMI" that were used to develop the GDP multipliers included on Bates page 391 of the Plan.

Response:

For the residential customer sector, income and non-income eligible, REMI designates increased discretionary income from residential EE savings as income available for purchase of consumer goods and services. REMI allocates a portion of this "income" to savings and the rest to spending on all categories of consumer spending in Rhode Island, for example, spending on restaurants and other retail services, entertainment, motor vehicles, etc. (there are 70 categories of consumer spending in REMI). Decreased discretionary income resulting from EE program and participant costs to residential customers results in decreased spending on the same categories of consumer spending.

For the C&I customer sector, EE savings free up money for businesses. REMI assumes that businesses spend this money on labor and all other inputs to production, as determined by the production cost functions in REMI. The same spending allocation is used for production cost increases resulting from EE program and participant costs attributable to C&I customers. This results in less business spending on all inputs to production.

The indirect and induced impacts of residential and business sector savings and costs are a component of the total GDP multipliers included on Bates page 391.

PUC 6-7

Request:

On page 16 of the “Review of RI Test and Proposed Methodology” report prepared by the Brattle Group and submitted by the Company as an attachment to Division 2-4, Brattle writes “run REMI for each program with both increases and decreases of spending across sectors to estimate the gross GDP impact of each evaluated program.” Please clarify the following:

- a. Is it technically possible for the REMI model to model negative gross GDP impact for a specific program based on the “increases and decreases of spending across sectors” inputted into REMI for that program?
- b. Referencing your response to PUC 7-4, does the REMI model allocate the “increases and decreases of spending across sectors” in the same manner for programs whose gross GDP impact is positive as for programs whose gross GDP impact is negative? Please explain.

Response:

- a. Yes, for example if program and participant costs are greater than program benefits and the net construction impact is not enough to compensate for this.
- b. Yes, the allocation of program and participant spending, energy efficiency savings and costs across sectors is always the same, regardless of whether the gross GDP impact is positive or negative. Please note, as explained in the Company's response to PUC 6-1, the estimated gross GDP impact is calculated as the sum of GDP impacts due to program and participant spending, benefits and costs.

PUC 6-8

Request:

Please answer the following questions regarding the hypothetical scenario in which an Energy Efficiency program resulted in negative net monetary savings (per the methodology included on page 16 of the "Review of RI Test and Proposed Methodology" report prepared by the Brattle Group and submitted by the Company as an attachment to Division 2-4):

- a. Can the REMI model accept a negative value for net monetary savings?
- b. Referencing your response to PUC 7-4, would the REMI model's allocation of negative net monetary savings be different than its allocation of positive net monetary savings? Please explain.

Response:

- a. Yes.
- b. No, the allocation of EE savings and costs across sectors is always the same, regardless of whether the impact is positive or negative, as explained in response to PUC 6-6.

PUC 6-9

Request:

When the Company most-recently ran the Energy Efficiency Plan through the REMI model in 2019 to develop program-specific economic development multipliers, did any of the programs at that time yield negative net savings for customers/ratepayers (i.e. decreased discretionary income for customers/ratepayers)? If yes, please list the specific programs.

Response:

No. None of the programs at that time yielded negative net savings.

PUC 6-10

Request:

Provide a table with the following three columns of information for every program contained in the proposed 2022 Energy Efficiency Plan (gas and electric). Electric program information should correspond to the Provisional Plan.

- 1) Program-specific economic development benefits as filed in the 2022 Plan (in the case of electric programs, as filed in the Provisional Plan)
- 2) Program-specific economic development benefits assuming 100% of the total program cost is allocated to ratepayers (i.e. program implementation expenses)
- 3) Program-specific economic development benefits assuming 100% of the total program cost is allocated to participants (i.e. customer contributions)

Response:

Please see tables below for electric, gas, and demand response programs.¹ In the tables, Spending is in \$000 while Economic Development Benefits in Rhode Island GDP are in dollars.

	Total Spending, \$000	EC.DEV.\$, Revised	EC.DEV.\$, 100% Ratepayer	EC.DEV.\$, 100% Participant
Electric Programs				
Residential New Construction (RNC)	1500.26	2,340,413	2,250,397	2,745,484
ENERGY STAR® HVAC	4862.82	7,683,260	7,391,490	8,996,222
EnergyWise	15663.72	16,446,901	15,663,715	19,579,644
EnergyWise Multifamily	3236.32	4,692,658	4,563,205	5,339,921
Residential Products	2795.62	4,808,466	4,668,685	5,395,546
Home Energy Reports	2641.30	2,931,839	2,826,187	3,407,273
Single Family - Income Eligible Services	13266.54	12,735,879	12,337,883	15,123,856
Income Eligible Multifamily	3536.14	4,596,987	4,455,541	5,233,492
Large Commercial New Construction	12453.57	34,122,789	36,738,039	25,903,431
Large Commercial Retrofit	30307.38	160,022,969	168,812,110	132,140,179
Small Business Direct Install	9732.31	14,890,430	17,323,507	7,299,231

¹ Using revised multipliers as described in a memo to be submitted to the PUC on 1/6/2022.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 5189
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Issued on December 23, 2021

PUC 6-10, page 2

Gas Programs	Total Spending, \$000	EC.DEV.\$, Revised	EC.DEV.\$, 100% Ratepayer	EC.DEV.\$, 100% Participant
ENERGY STAR® HVAC	3732.46	3,620,490	3,097,945	5,225,450
EnergyWise	8645.93	9,337,604	8,732,389	11,326,168
EnergyWise Multifamily	1489.15	2,531,562	2,427,322	2,859,176
Home Energy Reports	441.83	494,847	468,338	578,795
Residential New Construction	513.16	174,475	112,896	348,950
Single Family - Income Eligible Services	6371.76	6,690,353	6,308,047	7,837,271
Income Eligible Multifamily	2948.95	4,777,291	4,570,865	5,308,101
Large Commercial New Construction	3186.58	2,358,073	3,823,902	-2,326,207
Large Commercial Retrofit	4696.30	9,862,239	11,224,167	5,541,639
Small Business Direct Install	355.88	494,680	583,651	220,648
Commercial & Industrial Multifamily	957.26	1,483,760	1,703,930	784,957

The Demand Response programs have no participant costs.

Demand Response Programs	Total Spending, \$000	EC.DEV.\$, Revised	EC.DEV.\$, 100% Ratepayer	EC.DEV.\$, 100% Participant
Residential ConnectedSolutions	1811.46	3,659,157	3,659,157	3,659,157
Commercial ConnectedSolutions	4386.62	8,860,968	8,860,968	8,860,968

PUC 6-11

Request:

In response to PUC 1-3, the Company explained that in June 2021, it reduced the incentive for participants in the EnergyWise gas single family program from 75% to 50% in response to the expected overspend. Given this mid-year change in customer contribution, please explain the following:

- a. Did this reduction in incentive levels result in an increase in customer contribution?
- b. Did the mid-year reduction in incentive levels change the economic development benefits for the program, relative to what would have occurred had the incentives not been reduced? Please explain.

Response:

- a. Yes, a reduction in the % of incentive paid on a project will result in an increase in the % of customer contribution.
- b. In general, economic benefit multipliers are applied to implementation expenditures funded through program budgets. Therefore, reductions in program expenses (increases in customer contributions for the same project costs) will decrease estimated economic benefits.

However, economic development benefits are tied to overall implementation expenditures funded through program budgets, not per unit spending. Therefore, with the overall increase in program spending for the EnergyWise program, even with the reduced incentive levels, the economic development benefits for the program would have theoretically increased using the same set of multipliers.¹

Absent a change from planned customer participation, a mid-year reduction in incentive levels would have reduced the economic development benefits for the program, relative to what would have occurred had the incentives not been reduced. Lower economic benefits would have resulted because program spending went down and economic benefits are the product of the multipliers and program spending.

¹ Multipliers are unchanged between updates and were not re-estimated due to the change in spending in the EnergyWise program. The Company cannot say what the multiplier change would be without redoing that analysis.

PUC 6-12

Request:

How long would it take the Company to re-run the REMI model for the entire Energy Efficiency Plan (gas and electric) for purposes of calculating new economic development multipliers, and how much would it cost?

Response:

The Company would need to hire a consultant to update the analysis. The Company estimates that this would cost around \$100,000, based on the historical invoices to the Brattle Group around the creation of the last version of economic multipliers. This would likely take several months because of the time required to send out an RFP, select a consultant, provide the consultant with inputs and have the consultant carry out the update. Note that Brattle and Company analysts spent approximately seven months to develop the current multipliers, after the Company issued an RFP and selected Brattle.

PUC 6-13

Request:

For the following four data requests (PUC 6-13 thru 6-16): Please respond only if it is possible for National Grid to re-run the REMI model and file responses by the close of business on January 5, 2022. If it is not possible to respond by that date, please inform the Commission as to how long it would take for the Company to re-run the REMI model and respond.

Re-run the REMI model for the Large C&I Retrofit Program (electric) included in the 2022 Provisional Plan. Using the results of that re-run, generate a new economic development multiplier (GDP/\$) for the Large C&I Retrofit Program (electric). Provide all results and supporting model documentation.

Response:

The Company was unable to re-run the REMI model and file responses by the close of business on January 5, 2022. Taking into account that next week will be primarily dedicated to hearings, the Company will be able to re-run the REMI model and respond to this request on or around January 21, 2022.

PUC 6-14

Request:

Using the new economic development multiplier from PUC 7-13, please re-calculate the economic development benefits of the Large C&I Retrofit Program (electric) program and re-calculate the program BCR using the new value of economic development benefits.

Response:

Please see response to PUC 6-13.

PUC 6-15

Request:

Re-run the REMI model for just the portion of Large C&I Retrofit Program (electric) spending included in the incremental \$9m reallocation. Using the results of that re-run, generate a new economic development multiplier (GDP/\$) for the Large C&I Retrofit Program (electric). Provide all results and supporting model documentation.

Response:

Please see response to PUC 6-13.

PUC 6-16

Request:

Using the new economic development multiplier from PUC 7-15, please re-calculate the economic development benefits of the Large C&I Retrofit Program (electric) program and re-calculate the program BCR using the new value of economic development benefits.

Response:

Please see response to PUC 6-13.